

STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

Lab ID: K00002140

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

K00002140001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

01/29/2009 09:45

County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: **TDEC-WPC** 327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

02/09/2009

Date/Time Received:

01/29/2009 13:30

Received By:

Ken Hitchman

Field Determinations

pH:

6.98

pH Units

Chlorine, residual:

Conductivity:

49

uMHO

Temperature:

2.89 **Dissolved Oxygen: 13.28**

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME.	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	16	mg/L	3.8	10	P Leathers	2/2/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	25	mg/L	0.7	1	P Leathers	1/30/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.1	ml/L	0.10	0.10	P Leathers	1/30/2009

TEST: Residue, Suspended	ME.	THOD: SM 254	0D		_	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	53	mg/L	10	10	A Peeples	1/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002140002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA ash spill

Project Site No.:

1

Station No.:

EMORY012.1RO

Date/Time Collected: Sampler's Name:

01/29/2009 09:50

County:

Jonathon Burr

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date: Date/Time Received: 02/09/2009

Received By:

01/29/2009 13:30

Ken Hitchman

Field Determinations

pH:

6.94

pH Units

Chlorine, residual:

Conductivity:

51

uMHO

Temperature:

2.79

Dissolved Oxygen: 13.24

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	9.9J	mg/L	3.8	10	P Leathers	2/2/2009

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	16	mg/L	0.7	1	P Leathers	1/30/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZED BY:		DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	1/30/2009

TEST: Residue, Suspended	ME.	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	20	mg/L	10	10	A Peeples	1/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002140003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA ash spill

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

01/29/2009 10:00

County:

Larry Everett **ROANE - 73**

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

02/09/2009

Date/Time Received:

TEST: Alkalinity, Total

01/29/2009 13:30

Received By:

Ken Hitchman

METHOD: EPA 310.2	

Field Determinations

Dissolved Oxygen: 13.19

Chlorine, residual:

Conductivity:

Temperature:

6.94

49

2.75

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

ANALYZED BY: MDL MQL ANALYTE **RESULT UNITS** DATE Total Alkalinity 16 mg/L 3.8 10 P Leathers 2/2/2009

TEST: Hardness, Calcium	ME:	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	29	ma/l	0.7	1	Plaathare	1/30/2000

TEST: Residue, Settleable	ME	THOD: SM 254	0F	······································		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	0.1	ml/L	0.10	0.10	P Leathers	1/30/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	41	mg/L	10	10	A Peeples	1/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002140004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA ash spill

Project Site No.:

4

Station No.:

EMORY000.1RO

Date/Time Collected:

01/29/2009 10:10

Sampler's Name: County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20

Agency Invoiced: **Priority Date:**

TDEC-WPC TDEC-WPC

Date/Time Received:

02/09/2009 01/29/2009 13:30

Received By:

Ken Hitchman

Field Determinations

pH:

Chlorine, residual:

pH Units

Conductivity:

53 2.85 **uMHO**

Temperature:

Dissolved Oxygen: 13.00

6.93

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total METHOD: EPA 310.2						
ANALYTE	RESULT UNITS M		MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	26	mg/L	3.8	10	P Leathers	2/2/2009

TEST: Hardness, Calcium	MET	THOD: SM 350			-	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	32	mg/L	0.7	1	P Leathers	1/30/2009

TEST: Residue, Settleable METHOD: SM 2540F							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	1/30/2009	

TEST: Residue, Suspended	d METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	18	mg/L	10	10	A Peeples	1/30/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002140005

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3 near Hwy 70 bridge

Project Site No.:

Sampler Project Name: TVA ash spill

Station No.:

CLINC002.3RO

Date/Time Collected: Sampler's Name:

01/29/2009 10:25

County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 **TDEC-WPC**

Priority Date:

TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009 13:30

Received By:

Ken Hitchman

Field Determinations

pH:

7.65

pH Units

Chlorine, residual:

Conductivity:

149

uMHO

Temperature: **Dissolved Oxygen: 11.87**

6.60

Other:

Flow:

CFS

mg/L

TEST: Alkalinity, Total	ME:					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	91	mg/L	3.8	10	P Leathers	2/2/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	76	mg/L	0.7	1	P Leathers	1/30/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	1/30/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL ANALYZEI	ANALYZED BY:	BY: DATE
Total Suspended Solids	13	mg/L	10	10	A Peeples	1/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002140006

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual:

Sampler Project Name: TVA ash spill **Project Site No.:**

Station No.:

CLINC004.5RO

Date/Time Collected:

01/29/2009 10:40

Sampler's Name: County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

02/09/2009

Date/Time Received:

01/29/2009 13:30

Received By:

Ken Hitchman

TEST: Alkalinity, Total	MET					
ANALYTE	RESULT	UNITS	MDL MQ		ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	P Leathers	2/2/2009

Field Determinations

Dissolved Oxygen: 11.20

Conductivity:

Temperature:

7.89

201

7.39

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	85	mg/L	0.7	1	P Leathers	1/30/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	<0.1	ml/L	0.10	0.10	P Leathers	1/30/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	A Peeples	1/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit



STATE OF TENNESSEE DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES

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Michael Atchley

TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

Lab ID:

K00002140

Knoxville Regional Laboratory

Sampling Agency:

TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

Analytical Supervisor

K00002140001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name:

TVA ash spill

Project Site No.:

2

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

01/29/2009

County:

Larry Everett ROANE - 73

Sample Matrix:

ROANE -

EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: Priority Date:

TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009

13:30

09:45

Received By:

Ken Hitchman

Field Determinations

pH:

6.98

pH Units

Chlorine, residual:

Conductivity:

49 2.89

.

Temperature: Dissolved Oxygen:

13.28

mg/L

uMHO

Other:

Flow:

CFS

TEST: Digestion Metals	MET	HOD: EPA 200	.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/30/2009				A Bass	1/30/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	1400	μg/L	2.9	10	A Bass	2/2/2009	

TEST: ICP-MS	MET	HOD: EPA 200	8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	970	μg/L	64.0	100	M Pattanayek	2/3/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	2/2/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	2/2/2009
Barium	36	μg/L	2.5	5	M Pattanayek	2/2/2009
Beryllium	0.14J	μg/L	0.11	1	M Pattanayek	2/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	2/2/2009
Chromium	2.7J	μg/L	2.0	5	M Pattanayek	2/2/2009
Cobalt	1.3	μg/L	0.04	1	M Pattanayek	2/2/2009
Copper	3.1	μg/L	0.38	1	M Pattanayek	2/2/2009
Lead	1.7	μg/L	0.10	1	M Pattanayek	2/2/2009
Manganese	97	μg/L	0.42	1	M Pattanayek	2/2/2009
Nickel	2.8	μg/L	0.25	1	M Pattanayek	2/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	2/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	2/2/2009
Thallium	0.08J	μg/L	0.03	1	M Pattanayek	2/2/2009
Vanadium	10	μg/L	3.4	5	M Pattanayek	2/2/2009
Zinc	7.9	μg/L	1.9	5	M Pattanayek	2/2/2009

K00002140001

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: Emory River mile 2.1 TVA ash spill

Project Site No.:

2

Station No.:

EMORY002.1RO

Date/Time Collected:

01/29/2009 09:45

Sampler's Name:

Larry Everett

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-WPC 327.34-20 TDEC-WPC

Send Report To: Agency Invoiced: Priority Date:

TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009

13:30

Received By:

Ken Hitchman

Field Determinations

pn:

6.98

pH Units

Chlorine, residual:

Conductivity:

Dissolved Oxygen:

49

uMHO

Temperature:

perature: 2

2.89 13.28

mg/L

Other:

Flow:

CFS

TEST: Mercury	MET	HOD: EPA 245	.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	2/2/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002140002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name:

TVA ash spill

Project Site No.:

Station No.: Date/Time Collected: EMORY012.1RO 01/29/2009 09:50

Sampler's Name:

Jonathon Burr

County: Sample Matrix: ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code: Send Report To:

TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009

13:30

Received By:

Ken Hitchman

TEST: Digestion Metals	MET	HOD: EPA 200	.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/30/2009				A Bass	1/30/2009

Field Determinations

Chlorine, residual:

Dissolved Oxygen:

Conductivity:

Temperature:

Other:

Flow:

6.94

51

2.79

13.24

pH Units

uMHQ

mg/L

CFS

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	1100	μg/L	2.9	10	A Bass	2/2/2009	

TEST: ICP-MS	MET	HOD: EPA 200	.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	520	µg/L	64.0	100	M Pattanayek	2/3/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	2/2/2009
Arsenic	Ü	μg/L	0.93	5	M Pattanayek	2/2/2009
Barium	29	μg/L	2.5	5	M Pattanayek	2/2/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	2/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	2/2/2009
Chromium	2.7J	µg/L	2.0	5	M Pattanayek	2/2/2009
Cobalt	0.56J	μg/L	0.04	1	M Pattanayek	2/2/2009
Copper	1.2	μg/L	0.38	1	M Pattanayek	2/2/2009
Lead	0.66J	μg/L	0.10	1	M Pattanayek	2/2/2009
Manganese	36	μg/L	0.42	1	M Pattanayek	2/2/2009
Nickel	1.8	μg/L	0.25	1	M Pattanayek	2/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	2/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	2/2/2009
Thallium	0.05J	µg/L	0.03	1	M Pattanayek	2/2/2009
Vanadium	10	μg/L	3.4	5	M Pattanayek	2/2/2009
Zinc	10	μg/L	1.9	5	M Pattanayek	2/2/2009

K00002140002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name:

TVA ash spill

Project Site No.:

1

Station No.:

EMORY012.1RQ

Date/Time Collected:

01/29/2009 09:50

Sampler's Name: County:

Jonathon Burr

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: Priority Date: TDEC-WPC TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009

13:30

Received By:

Ken Hitchman

Field Determinations

pH:

6.94

pH Units

Chlorine, residual:

Conductivity:

51

uMHO

Temperature: Dissolved Oxygen:

2.79

13.24

mg/L

Other:

Flow:

CFS

MDI			
S MDL	MQL	ANALYZED BY:	DATE
0.13	0.2	A Wilson	2/2/2009
	0.13	0.13 0.2	0.13 0.2 A Wilson

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

Lab-Sample Number:K00002140003Project Name:TVA-Ash SpillSample Description:Emory River mile 1.7

Sampler Project Name: TVA ash spill

Project Site No.:

 Station No.:
 EMORY001.7RO

 Date/Time Collected:
 01/29/2009
 10:00

Sampler's Name:Larry EverettCounty:ROANE - 73Sample Matrix:Water

EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 02/09/2009

Date/Time Received: 01/29/2009 13:30

Received By: Ken Hitchman

Field Determinations

pH: 6.94 pH Units

Chlorine, residual:

Conductivity: 49 uMHO
Temperature: 2.75

mg/L

Temperature: 2.75
Dissolved Oxygen: 13.19

Other:

Flow: CFS

TEST: Digestion Metals	MET	HOD: EPA 200	.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/30/2009				A Bass	1/30/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
iron	890	µg/L	2.9	10	A Bass	2/2/2009

TEST: ICP-MS	MET	HOD: EPA 200	.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Aluminum	590	µg/L	64.0	100	M Pattanayek	2/3/2009	
Antimony	2.0	µg/L	0.33	1	M Pattanayek	2/2/2009	
Arsenic	U	μg/L	0.93	5	M Pattanayek	2/2/2009	
Barium	30	. μg/L	2.5	5	M Pattanayek	2/2/2009	
Beryllium	U	μg/L	0.11	1	M Pattanayek	2/2/2009	
Cadmium	U	μg/L	0.41	1	M Pattanayek	2/2/2009	
Chromium	3.2 J	μg/L	2.0	5	M Pattanayek	2/2/2009	
Cobalt	0.90J	μg/L	0.04	1	M Pattanayek	2/2/2009	
Copper	2.4	μg/L	0.38	1	M Pattanayek	2/2/2009	
Lead	1.1	μg/L	0.10	1	M Pattanayek	2/2/2009	
Manganese	93	μg/L	0.42	1	M Pattanayek	2/2/2009	
Nickel	2.1	µg/L	0.25	1	M Pattanayek	2/2/2009	
Selenium	U	μg/L	1.3	5	M Pattanayek	2/2/2009	
Silver	0.04J	μg/L	0.03	0.25	M Pattanayek	2/2/2009	
Thallium	0.20J	μg/L	0.03	1	M Pattanayek	2/2/2009	
Vanadium	9.5	μg/L	3.4	5	M Pattanayek	2/2/2009	
Zinc	9.0	µg/L	1.9	5	M Pattanayek	2/2/2009	

K00002140003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

10:00

Sampler Project Name:

TVA ash spill

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected: Sampler's Name:

01/29/2009 Larry Everett

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: Billing Code:

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: **Priority Date:**

Received By:

TDEC-WPC TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009 13:30

Ken Hitchman

Field Determinations

6.94

pH Units

Chlorine, residual:

Conductivity:

49

uMHO

2.75 Temperature: 13.19

Dissolved Oxygen:

mg/L

Other:

Flow:

CFS

TEST: Mercury	MET	HOD: EPA 245	.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.13	0.2	A Wilson	2/2/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002140004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name:

TVA ash spill

Project Site No.:

4

Station No.:

EMORY000.1RO

Date/Time Collected: Sampler's Name:

01/29/2009

County:

Larry Everett ROANE - 73

Sample Matrix:

ROANE - 7

EFO:

vvater Knoxville

Sampling Agency: Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: Priority Date:

TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009

13:30

10:10

Received By:

Ken Hitchman

Field Determinations

pH:

6.93

pH Units

uMHQ

Chlorine, residual:

Conductivity:

53

2.85

Temperature: 2. Dissolved Oxygen: 13

13.00

mg/L

Other:

Flow:

CF\$

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/30/2009				A Bass	1/30/2009

TEST: ICP	MET	HOD: EPA 200	.7			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	700	µg/L	2.9	10	A Bass	2/2/2009

TEST: ICP-MS	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	420	µg/L	32.0	50	M Pattanayek	2/3/2009
Antimony	0.40J	µg/L	0.33	1	M Pattanayek	2/2/2009
Arsenic	U	µg/L	0.93	5	M Pattanayek	2/2/2009
Barium	30	µg/L	2.5	5	M Pattanayek	2/2/2009
Beryllium	U	µg/L	0.11	1	M Pattanayek	2/2/2009
Cadmium	U	µg/L	0.41	1	M Pattanayek	2/2/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	2/2/2009
Cobalt	0.63J	μg/L	0.04	1	M Pattanayek	2/2/2009
Copper	1.6	μg/L	0.38	1	M Pattanayek	2/2/2009
Lead	0.76J	μg/L	0.10	1	M Pattanayek	2/2/2009
Manganese	98	μg/L	0.42	1	M Pattanayek	2/2/2009
Nickel	1.6	μg/L	0.25	1	M Pattanayek	2/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	2/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	2/2/2009
Thallium	0.08J	μg/L	0.03	1	M Pattanayek	2/2/2009
Vanadium	7.0	μg/L	3.4	5	M Pattanayek	2/2/2009
Zinc	6.1	μg/L	1.9	5	M Pattanayek	2/2/2009

K00002140004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: Project Site No.:

TVA ash spill

Station No.:

EMORY000.1RO 10:10

Date/Time Collected: Sampler's Name:

01/29/2009 Larry Everett

County:

ROANE - 73

Sample Matrix:

EFO:

Water Knoxville

Sampling Agency: Billing Code: Send Report To:

TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009

13:30

Received By:

Ken Hitchman

Field Determinations

pH:

6.93

pH Units

Chlorine, residual:

Dissolved Oxygen:

Conductivity:

53

uMHO

Temperature:

2.85

13.00

mg/L

Other:

Flow:

ÇFS

MET	'HOD: EPA 245.	.1			
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
U	μg/L	0.13	0.2	A Wilson	2/2/2009
		RESULT UNITS	RESULT UNITS MDL	RESULT UNITS MDL MQL	RESULT UNITS MDL MQL ANALYZED BY:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

Lab-Sample Number: K00002140005
Project Name: TVA-Ash Spill

Sample Description: Clinch River mile 2.3 near Hwy 70 bridge

Sampler Project Name: TVA ash spill

Project Site No.: 5

 Station No.:
 CLINC002.3RO

 Date/Time Collected:
 01/29/2009
 10:25

Sampler's Name: Larry Everett County: ROANE - 73

Sample Matrix: Water
EFO: Knoxville
Sampling Agency: TDEC-WPC
Billing Code: 327.34-20
Send Report To: TDEC-WPC
Agency Invoiced: TDEC-WPC
Priority Date: 02/09/2009

Date/Time Received: 01/29/2009 13:30

Received By: Ken Hitchman

Field Determinations

pH: 7.65 pH Units

Chlorine, residual:

Conductivity: 149 uMHO

Temperature: 6.60

Dissolved Oxygen: 11.87 mg/L

Other:

Flow: CFS

TEST: Digestion Metals	MET	HOD: EPA 200	.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/30/2009				A Bass	1/30/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	490	μg/L	2.9	10	A Bass	2/2/2009

TEST: ICP-MS	MET	HOD: EPA 200	.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	390	μg/L	32.0	50	M Pattanayek	2/3/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	2/2/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	2/2/2009
Barium	35	μg/L	2.5	5	M Pattanayek	2/2/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	2/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	2/2/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	2/2/2009
Cobalt	0.43J	μg/L	0.04	1	M Pattanayek	2/2/2009
Copper	2.0	μg/L	0.38	1	M Pattanayek	2/2/2009
Lead	0.62J	μg/L	0.10	1	M Pattanayek	2/2/2009
Manganese	53	μg/L	0.42	1	M Pattanayek	2/2/2009
Nickel	1.5	μg/L	0.25	1	M Pattanayek	2/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	2/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	2/2/2009
Thallium	0.07J	μg/L	0.03	1	M Pattanayek	2/2/2009
Vanadium	5.1	μg/L _ͺ	3.4	5	M Pattanayek	2/2/2009
Zinc	3.4J	μg/L	1.9	5	M Pattanayek	2/2/2009

K00002140005

Project Name:

Sample Description:

TVA-Ash Spill

Sampler Project Name:

Clinch River mile 2.3 near Hwy 70 bridge

10:25

Project Site No.:

TVA ash spill

Station No.:

CLINC002.3RO

Date/Time Collected:

01/29/2009

Sampler's Name: County:

Larry Everett

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC 02/09/2009

Priority Date: Date/Time Received:

01/29/2009

13:30

Received By:

Ken Hitchman

Field Determinations

7.65

pH Units

Chlorine, residual:

Conductivity:

149

6.60

Temperature: Dissolved Oxygen:

11.87

mg/L

uMHO

Other:

Flow:

CFS

TEST: Mercury	MET					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/ L	0.13	0.2	A Wilson	2/2/2009
		rs-		V.=		2,2,200

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002140006

Project Name:

TVA-Ash Spill

10:40

13:30

Sample Description: Sampler Project Name:

TVA ash spill

Project Site No.:

Station No.:

CLINC004.5RO

Date/Time Collected: Sampler's Name:

01/29/2009 Larry Everett

County: Sample Matrix: EFO:

ROANE - 73 Water Knoxville

Billing Code: Send Report To: Agency Invoiced:

Sampling Agency:

TDEC-WPC 327.34-20 TDEC-WPC TDEC-WPC 02/09/2009

Date/Time Received:

01/29/2009

Received By:

Priority Date:

Ken Hitchman

Field Determinations

pH:

7.89

pH Units

uMHQ

Clinch River mile 4.5 near Sugar Grove Valley Road I Chlorine, residual:

Conductivity:

Temperature:

Dissolved Oxygen:

7.39 11.20

201

mg/L

Other:

Flow:

CFS

TEST: Digestion Metals	MET	HOD: EPA 200	.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	01/30/2009		•		A Bass	1/30/2009

TEST: ICP	MET	HOD: EPA 200	.7			
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Iron	360	μg/L	2.9	10	A Bass	2/2/2009

TEST: ICP-MS	MET	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	180	μg/L	6.4	10	M Pattanayek	2/3/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	2/2/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	2/2/2009
Barium	33	μg/L	2.5	5	M Pattanayek	2/2/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	2/2/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	2/2/2009
Chromium	U	µg/L	2.0	5	M Pattanayek	2/2/2009
Cobalt	0.25J	μg/L	0.04	1	M Pattanayek	2/2/2009
Copper	1.4	μg/L	0.38	1	M Pattanayek	2/2/2009
Lead	0.39J	μg/L	0.10	1	M Pattanayek	2/2/2009
Manganese	41	μg/L	0.42	1	M Pattanayek	2/2/2009
Nickel	1.2	µg/L	0.25	1	M Pattanayek	2/2/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	2/2/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	2/2/2009
Thallium	0.05J	μg/L	0.03	1	M Pattanayek	2/2/2009
Vanadium	6.0	μg/L	3.4	5	M Pattanayek	2/2/2009
Zinc	7.8	μg/L	1.9	5	M Pattanayek	2/2/2009

K00002140006

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley Road I Chlorine, residual:

10:40

Sampler Project Name:

TVA ash spill

Project Site No.:

Station No.:

CLINC004.5RO

Date/Time Collected: Sampler's Name:

01/29/2009

County:

Larry Everett

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC 02/09/2009

Priority Date: Date/Time Received:

01/29/2009

13:30

Received By:

Ken Hitchman

Field Determinations

pH:

7.89 pH Units

Temperature:

201

uMHQ

Conductivity:

Dissolved Oxygen:

7.39

11.20 mg/L

Other:

Flow:

CFS

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.13	0.2	A Wilson	2/2/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit